

#### LEK BEHAVIOUR IN THE MUSK DUCK.

The Musk Duck *Biziura lobata* is an Australian endemic species which is believed to use a lek in its breeding behaviour (Marchant and Higgins 1990). A lek is a non-nesting territory in which males display to attract females for sexual stimulation and coition (Landsborough Thompson 1964). The term is believed to be derived from the Swedish word 'leka', to play, which can have sexual connotations. Most recorded examples are of land-based arenas, such as the platforms of lyrebirds *Menura* spp. and the bowers of bowerbirds, e.g. *Chlamydera* spp.

Marchant and Higgins (1990) point out that breeding of the Musk Duck has rarely been recorded in the field and the suggestion of lek behaviour is based on observations of captive birds on ponds. Brown and Brown (1997) in Western Australia describe the breeding behaviour of the Musk Duck which includes aggressive underwater attacks on Eurasian Coots *Fulica atra* and Black Swans *Cygnus atratus* (which sought dry land) followed by a typical male Musk Duck display in a cleared area.

On 21 October 1998 at Lake Wendouree in Ballarat, Victoria, a bus load of ornithologists on a WEA (Workers Educational Association) Study Tour watched similar behaviour in a male Musk Duck. This bird was displaying in the presence of a female Musk Duck and two half-grown ducklings and swam about, adopting a flat profile in the water. Initially the tail was fanned and held just above the surface of the water and at a slight angle. Every few seconds the bird kicked out sideways with its legs, splashing water and the tail moved to a horizontal position for a short time. After half a minute or so of this behaviour the male bird then fanned its tail over its body and continued to splash water by kicking its legs out sideways (see Figure 1). During this second phase the bird stayed more or less in the same place and uttered a piercing and high-pitched whistle every few seconds. At all times the head was held stretched out in front of the body with the lobe inflated and just above the water level. A short sequence of this behaviour was captured on video (Rita Pullen unpubl. data). Towards

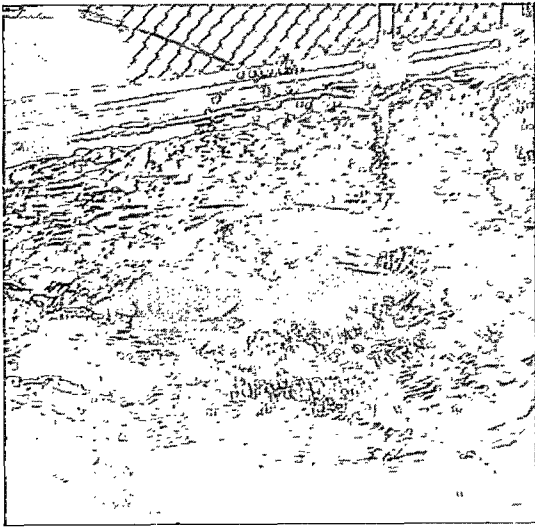


Figure 1. A captive male Musk Duck displaying at Serendip in Victoria.

**OBSERVATION OF AUSTRALIAN RAVENS FISHING IN THE RIVER MURRAY.** The Australian Raven *Corvus coronoides* is known to be omnivorous with a preference for carrion. It has not previously been noted to engage in catching live fish. On 8 March 1999 two observers, D. Mitchell and C. Attwood, noted a congregation of birds at a spill point on the causeway on the Katarapko Creek, 5 km south of Berri on the River Murray. Australian White Ibis *Threskiornis molucca* and at least six ravens were present and were seen to be fishing. During the period of 10 to 15 minutes of observation two additional ravens, with the distinctive call of the Australian Raven, joined the group. The ravens were standing on the causeway rocks intently scouring the rushing water. Two were seen to take live fish, one plunging its head under the water attempting a catch. The ravens ate the fish by pecking at them and stripping the flesh from the carcass. Subsequent inspection of the site showed that the fish were 100 to 120 mm long. The ibis also appeared to be fishing but were not successful while under observation. The birds were observed from a boat for 10 to 15 minutes. The general habitat of the area consisted of dense lignum *Muehlenbeckia florulenta* flats with

the end of the observation period the male bird saw another male Musk Duck on the horizon and swam towards this bird. On approaching the other male, he dived underwater and came up very close to the second male, which swam away.

## REFERENCES

- Brown, R.J. and Brown, M.N. 1997. Observations of breeding Musk Ducks *Biziura lobata*. *Aust. Bird Watcher*, 17, 98.
- Landsborough Thompson, Sir A. (ed.) 1964. *A new dictionary of birds*. Thomas Nelson and Sons Ltd, London.
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stands of black box *Eucalyptus largiflorens*, river red gum *E. camaldulensis* and river cooba *Acacia stenophylla* along the river's edge. The margins of the causeway were being encroached upon by common reeds *Phragmites australis*.

Rowley and Vestjens (1973) noted, 'Among the vertebrate flesh eaten, fish, frogs and snakes are rare and where they occur, probably represent scavenging after a calamity such as a dam drying up, or at a road casualty'. The present observation would indicate that Australian Ravens at the observed location use a previously unobserved technique to obtain food.

## ACKNOWLEDGMENT

R. Attwood is thanked for assistance in the preparation of this note.

## REFERENCE

- Rowley, I. and Vestjens, W.J.M. 1973. The Comparative Ecology of Australian Corvids (V. Food). *CSIRO Wildl. Res.*, 18, 131-55.

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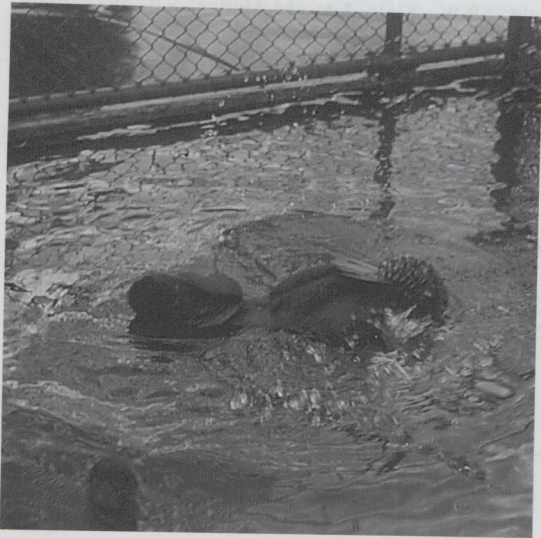


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### FISH-BAITING BEHAVIOUR OBSERVED IN STRIATED HERON *Butorides striatus*.

On 18 July 1999 at approximately 0715 h a group of 11 birdwatchers, including myself, observed the following behaviour in an adult Striated Heron *Butorides striatus* while on a cruise of 'Yellow Waters' in Kakadu National Park, Northern Territory.

The bird was first seen walking along a branch of a spiral palm *Pandanus spiralis* approximately 300 mm above the water. When first seen, it held a small blue dragonfly/damselfly in the tip of its beak. The bird was observed to reach forward and place the insect on the surface of the water. It then returned to a standing position on the branch and watched the insect for approximately 10 seconds, before reaching down to pick it up and returning to the standing position. After watching the water intently, it placed the insect in a different position. It repeated the above sequence two more times but, on placing the insect on the water a fourth time, the bird remained stretched forward, poised just above the water for approximately 5 seconds (see Figure 1) before plunging forward into the water. The bird seemed over-stretched and had trouble regaining its perch. It did not appear to have caught anything on this occasion.

Unfortunately some noise from our boat made the bird retreat under the spiral palm, leaving the insect in the water. We decided to leave the area so as not to disturb it further.

I concluded that the heron was using the insect as bait to lure fish to the surface of the water.

The *Handbook of Australian, New Zealand and Antarctic Birds* (Marchant and Higgins 1990) describes feeding behaviour in the Striated Heron as being a patient wait or slow stalk in a hunched position, before lunging forward with neck fully extended at passing prey. It is also known to run after distant prey before slowing to a stalk as it reaches its prey, or to plunge head or feet first into water from a perch or the air. Feeding usually occurs at night or early morning, or to coincide with low tide. There is no reference to fish-baiting behaviour in this text or other Australian references which I researched.

*Butorides striatus* is found in many different areas of the world and is known by a variety of names—Green, Green-backed, Little Green, Striated and Mangrove Heron. It is essentially

pan-tropical in south Americas, Africa south of the Sahara, south and east Asia to Japan, throughout the Philippines and Indonesia to New Guinea, Australia and the south-west Pacific. In other areas of the world, fish-baiting behaviour has been recorded in *Butorides* spp.

In Japan this heron has learnt from humans that fish are attracted to bread and other edible fragments and will flick these on to the surface of the water. When the fish come to the surface to take the bait (humans come to the same area to feed bread to the fish), they are taken by the heron. More recently these herons have started to use little feathers as bait, exploiting the inquisitive nature of fish (Attenborough 1998).

Similar behaviour has been reported in the Green Heron *Butorides virescens* at the Miami Seaquarium. Sisson (1974) documents a family group of herons (mother and two young) that had learnt to use pellets of fish food (which were sold through vending machines for visitors to feed the fish) to attract fish to come to the surface of the water within their strike range.

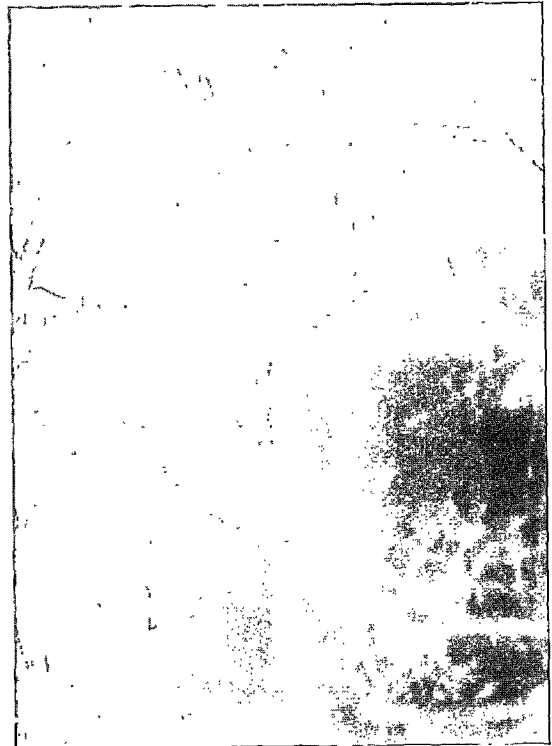


Figure 1. A Striated Heron stretching towards the water from a branch of a spiral palm at Yellow Waters, Kakadu National Park.

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Figure 1. A Striated Heron stretching towards the water from a branch of a spiral palm at Yellow Waters, Kakadu National Park.

One individual was noted to use bait as its preferred method of fishing. The bird would pick up a pellet of fish food, carry it to the edge of the water and carefully drop the pellet onto the water. It then froze in the typical heron stalking posture, watching the bait intently and struck as the fish rose to the bait. If the fish were not biting, it moved the bait to a different position and tried again. One observer saw this particular bird catch two dozen fish in 25 minutes, each time retrieving the bait between catches. Sisson (1974) also notes one previous report, some 15 years old, of this species using bread as bait.

However in Miami and Japan, the birds used artificial foods supplied by humans and were thought to have learnt the behaviour by watching fish being attracted to food thrown regularly and repetitively into the water. The heron in Kakadu National Park differed as it was using an insect and was not in the vicinity of human fish-feeding or fish-baiting activities. In the

National Geographic article (Sisson 1974) Dr Myrberg from the University of Miami stated that while animals usually learn through repetition, they can rarely learn new behaviour from one or a very few experiences. It is not known how the Kakadu heron learnt its fish-baiting behaviour.

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